

## CLIMATOLOGICAL DATA FOR JUNE, 1911.

## DISTRICT NO. 11, CALIFORNIA.

Prof. ALEXANDER G. McADIE, District Editor.

## GENERAL SUMMARY.

June, 1911, was a cool month. The whole spring was marked by continued cool and cloudy weather and the present month, although the first of the summer months, was essentially more like a spring month than a summer month. While there was considerable cloudiness and much fog along the coast, comparatively little rain fell. There were no other unusual climatic features. A heavy snow cover left from March and April storms melted steadily during the month of June, and while the rivers at many points were higher than usual and the high stage continued longer than usual, there were no floods. Owing to the uniform melting and the absence of any general disturbance, conditions, which in an ordinary June would have been critical, were passed without any great loss or damage. If a warm rain of a day's duration had fallen about the middle of the month there would probably have been overflows, broken levees, flooded fields, and much interference with transportation.

There was no unusually warm weather; occasional high temperatures were reported, but there was no prolonged hot spell.

At the beginning of the month there was about 38 inches of snow on the ground at levels of 6,000 to 7,000 feet. By the 12th of the month the bare ground was visible and within a week snow remained only in patches and on the high peaks and in steep ravines facing northeast. The month was in striking contrast to June, 1910, in the matter of water supply. There was an abundance of water available for all purposes, whereas in 1910 the supply of visible storage water was the smallest known for many years. It is worth noting that during last June sand bars could be seen in some of the navigable rivers, whereas during the current June in the same localities the rivers day after day were bank full and at times dangerously high.

There was more sunshine than usual in some localities and less in others. Along the coast, especially at San Francisco, there was quite a deficiency.

No noteworthy features connected with pressure distribution occurred, except that the month began with the North Pacific summer high farther north than usual. Over the southern half of the Pacific slope and the Great Basin, while the pressure was low, it was not sufficiently low to call for comment. At this season of the year there is generally a well-marked depression in southern California, extending over the Valley of the Colorado. This condition, probably connected with the heat of the region, existed during the present month, but in less marked degree than is generally the case. Thunderstorms occurred in the Sierra, and during one period, June 6-7, these shower conditions prevailed in the Great Valley of California and even reached the coast. A change in pressure distribution occurred about June 10, and dry, clear weather with northeast winds lasted for about 60 hours, the pressure distribution then reverting to the

earlier type. Severe electrical storms were reported in the Siskiyou Mountains on June 14. These were sufficiently severe to interfere with all telegraphic service from central California north to Oregon. During the remainder of the month the weather was generally clear, with no features of special interest, except the prevalence of afternoon thunderstorms in the Sierra, and these were confined mostly to the period between June 18 to 21.

## TEMPERATURE.

The mean temperature for the State was nearly 2° below the normal, making the month as above stated a cold month, and while not the coldest on record, colder than any June since 1908. Only three Junes have been as cold and in no case has the month been more than a fraction of a degree colder.

The following table gives the means and departures for each June from 1897 to 1911, inclusive:

Year.	Mean. °F.	Depart- ture. +/-	Year.	Mean. °F.	Depart- ture. +/-
1897.....	69.8	+1.2	1905.....	67.5	-1.1
1898.....	71.3	+2.7	1906.....	66.7	-1.9
1899.....	71.5	+2.9	1907.....	66.1	-2.5
1900.....	71.4	+2.8	1908.....	66.0	-2.6
1901.....	70.5	+1.9	1909.....	68.1	-0.5
1902.....	70.2	+1.6	1910.....	67.3	-1.3
1903.....	70.9	+2.3	1911.....	66.7	-1.9
1904.....	71.1	+2.5			

The highest temperature reported at any station was 113° at Palm Springs on the 11th. This was 8° lower than the highest temperature reported during June, 1910. The lowest temperature during the month was 18°, which occurred at Tamarack on the 23d. This was almost the same as the lowest temperature reported during the preceding year. The highest monthly mean was 91.3° at Bagdad; whereas the highest monthly mean for the same month during the preceding year was 93.2° at the same place. The lowest monthly mean was 41.6° at Tamarack, which may be compared with the lowest monthly mean for June, 1910, namely, 45.2° at McDowell.

## PRECIPITATION.

June, 1911, was a dry month. With one exception (June, 1910) it was the driest June for six years. The rainfall consisted mostly of afternoon showers in the mountain sections and occasional rains at night along the southern coast and that part of the northern coast above Cape Mendocino. There was only one period when the rain was general and that was on the 6th and 7th. The average monthly precipitation for the State was 0.15 inch.

The following table gives the average and departure from the normal for each June from 1897 to 1911, inclusive:

Year.	Mean.	Departure.	Year.	Mean.	Departure.
	Inches.	Inches.		Inches.	Inches.
1897.....	.46	+0.13	1905.....	.07	-0.26
1898.....	.25	-.08	1906.....	1.05	+.72
1899.....	.57	+.24	1907.....	1.02	+.09
1900.....	.19	-.14	1908.....	.17	-.16
1901.....	.01	-.32	1909.....	.19	-.14
1902.....	.10	-.23	1910.....	.05	-.28
1903.....	.07	-.26	1911.....	.15	-.18
1904.....	.04	-.29			

The greatest monthly rainfall was 1.30 inches at Hornbrook. Last year the greatest monthly amount was 2.10 inches at Monumental. There was no rainfall at nearly half of the stations reporting. The distribution of the rain geographically was irregular, and except in case of one general storm, the rainfall was in the form of showers, and places close together did not report rain at the same time. The heaviest 24-hour rainfall was 1.05 inches at Hornbrook.

#### SNOWFALL.

The month was one of comparatively little snowfall. It is not unusual to have some snow in the Sierras during the first half of June and occasional flurries during the last portion. There was little snow during the present month and no reenforcement of the snow cover. The cover was, however, of large extent and considerable depth—i. e., several feet at the beginning of the month. As stated above the depth decreased steadily and there was a fairly uniform rate of melting of about 4 inches a day, except between June 7 and 12, when the rate somewhat exceeded this. At the close of the month, while all lower levels were free from snow, the higher peaks remained clothed with snow which, with the soaked ground, gave every indication of a supply of water ample to meet the needs of the summer and early fall months.

#### SUNSHINE.

The following table gives the total hours of sunshine and percentages of possible:

Stations.	Hours.	Percent- age of possible.	Stations.	Hours.	Percent- age of possible.
Eureka.....	179	40	Sacramento.....	332	74
Fresno.....	424	96	San Diego.....	235	55
Los Angeles.....	278	65	San Francisco.....	230	52
Mount Tamalpais.....	393	89	San Jose.....	345	78
Red Bluff.....	361	80	San Luis Obispo.....	254	58

If we add the total hours of sunshine for the 10 Weather Bureau stations in California for the months of June, 1910 and 1911, we find that during the current year there is nearly 400 hours less sunshine than during the preceding year. There was a marked deficiency in sunshine at the coast stations.

#### THUNDERSTORM.

At Hornbrook a very heavy thunderstorm, claimed to be the heaviest in the history of the town, occurred on June 14 at 4.10 p. m., lasting until 5.40 p. m. One and five one-hundredths inches of rain fell in 1 hour and 30 minutes. Electric power lines were knocked down.

#### NOTE ON THE WIND MOVEMENT AT POINT REYES LIGHT DURING JUNE, 1911.

By Mr. JAMES JONES, Observer.

High winds were frequent and prolonged, as is usual at this season. The gale that began on the 27th, however, is worthy of special notice.

During the 72 hours beginning at midnight of the 26th–27th 4,113 miles were recorded, an average of 57.1 miles per hour.

During the 24 hours beginning at 9 p. m. of the 28th, the period of highest velocity, 1,586 miles were recorded, an average of 66.1 miles per hour.

The highest velocity for five minutes was 79 miles per hour, and the greatest number of miles actually recorded in any hour was 75.

While the gale was in progress the regular diurnal oscillations of pressure were slightly intensified and frequently interrupted by short but rapid variations.

Many of the shingles were blown off of the office roof during the gale. Spray from the ocean was driven so high up around the rocks that a rainbow at least 400 feet high was visible each afternoon.

#### NOTES ON THE RIVERS OF THE SACRAMENTO AND SAN JOAQUIN WATERSHEDS DURING THE MONTH OF JUNE, 1911.

By Mr. H. J. ANDREE, Observer.

The rivers of both watersheds were higher than usual for this month. This condition was due not so much to excessive snowfall during the winter and spring, but primarily to the fact that April and May were cold months, and left a greater portion of the snow than usual to be melted by the warm weather in June. At the end of the month the waters in the two main streams and all of their tributaries were falling rapidly.

*Sacramento watershed.*—The rivers of this watershed averaged from 1 foot to nearly 2 feet above their usual June stages and, excepting June, 1906, were the highest for this period since the records have been kept, the excess being more marked in the lower portion of the stream from Monroeville to Rio Vista. The lowlands were overflowed, as usual, during June.

At Sacramento the river stood at 20.8 feet on the 1st, and rose steadily, reaching a stage of 21.5 feet on the 13th, from which time it fell gradually to 18 feet on the 30th. At Colusa the highest water, 10.6 feet, was recorded on the 4th, and the lowest, 5.2 feet, on the 30th, while at Red Bluff the river fell from 5 feet on the 3d to 2.4 feet on the 30th.

*San Joaquin watershed.*—The main stream averaged 4 feet above the normal, while the tributaries were from 0.7 of a foot to 4.5 feet above. Without exception, the San Joaquin and its tributaries carried more water than in any June during the past five years.

At Lathrop the San Joaquin rose from a stage of 16.4 feet on the 1st to 19.2 feet on the 24th, which is 2.2 feet above flood stage. At Firebaugh the lowest reading, 9.2 feet, was reported on the 3d, and the highest, 13.6 feet, on the 24th, the latter being 1.6 feet above flood stage. At Pollasky the lowest water was 3.8 feet on the 1st, and the highest was 7.8 feet on the 22d.

There were three breaks in the levee in the vicinity of Lathrop, where the observer states that approximately 15,000 acres of land were flooded, much of which was planted to wheat and barley. The estimated cost of repairing the levee is \$12,000, and the damage to crops about \$20,000. At the crest of the flood the water was 3.2 feet higher than at any previous high water.

The damage in the immediate vicinity of Firebaugh was not great, although about 45 sections of grazing land were flooded for two weeks, but without loss of stock. A large break occurred in the levee on Temple River opposite Los Palos Colony, flooding 40 sections of farming land, which, it is estimated, caused a loss of about \$500,000, besides \$5,000 that it will cost to repair the levee.

## MONTHLY WEATHER REVIEW.

JUNE, 1911

TABLE 1.—*Climatological data for June, 1911. District No. 11; California.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.				Observers.			
				Mean.	Departure from the normal.			Highest.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmeted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.				
					Highest.	Lowest.	Date.																
<i>Oregon.</i>																							
Klamath Agency.	Klamath.	4,169	3	53.8	78	13	30	24	42	0.75				0.75	0	1	18	8	4	s.	Edson C. Watson.		
Kalmath Falls.	do.	4,100	22																		W. H. Helleman.		
Lakeview.	Lake.	4,825	26																		Bert Rice.		
Merrill.	Klamath.	4,070	5	58.4	87	11†	31	30	44	1.39				0.50	0	4	19	7	4		Mrs. Agnes Ritchson.		
Yonnia.	do.	4,146	4	56.4	86	11	27	24	48	0.76				0.23	0	9	11	14	5	s.	Jacob Ruecke.		
<i>California.</i>																							
Alameda.	Alameda.	1	60.2		78	28†	50	51	27	.05				.05	0	1	10	18	2	w.	Chas. E. Sears.		
Alturas.	Modoc.	4,460	7	60.0	92	11	29	24	50	1.01				.88	0	3	18	8	4	sw.	Prol. C. B. Towle.		
Angiola.	Tulare.	208	11	74.0	—	.8	103	13†	44	.49				.00	0	0	29	1	0	w.	Santa Fe Co.		
Antioch **.	Contra Costa.	46	32	68.2	—	3.8	96	14	45	20†				.04	—	.08	.04	1	28	0	nw.	Southern Pacific Co.	
Aptos **.	Santa Cruz.	102	26	60.6	—	1.9	74	25†	51	.87				.30	+	.25	.30	0	1	7	nw.	Do.	
Arrowhead Springs.	San Bernardino.	2,000	23	71.1	97	11†	41	1	40	.00				.00	0	0	0	0	0		Do.		
Auburn.	Placer.	1,380	46																		Do.		
Avalon.	Los Angeles.	1	60.8		74	6	51	8	17	.09				.09	0	3	24	6	0	w.	T. S. Manning.		
Azusa.	do.	540	9	68.6	104	12	42	8	50	T.	—	.14	T.		0	0	26	3	1		A. P. Griffith.		
Bagdad.	San Bernardino.	784	8	91.3	108	26†	72	8	30	.00				.00	0	0	0	0	0		Santa Fe Co.		
Bakersfield.	Kern.	404	12	79.0	—	2.9	102	19	57	2				.05	0	1	30	0	0	w.	Do.		
Barstow.	San Bernardino.	2,105	2	78.6	107	11	50	51	45	.00				.00	0	0	23	8	3	19	Do.		
Berkeley.	Alameda.	317	24	68.6	—	2.3	80	18†	47	.04				.18	.03	0	0	0	0	0	Do.		
Biggs **.	Butte.	98	12	70.1	+ 4.7	104	17†	56	8	.00				.50	.00	0	0	0	0	0	Do.		
Bishop.	Inyo.	4,450	16																		Do.		
Bishop Creek.	do.	8,500	1	66.3	77	11	30	1	31	.00				.00	0	0	15	0	15		W. A. Chalfant.		
Blacksburg.	Humboldt.	1,700	5	58.5	88	11	38	18	46	.14				.07	0	2	9	14	7	nw.	Victor Hope.		
Blue Canon.	Placer.	4,685	12	58.4	+ 5.3	93	12	34	23	.75				.64	.75	0	1	28	1	1	sw.	Southern Pacific Co.	
Blythe.	Riverside.	2	80.1	10	12	50	8	50	41	.41				.22	.00	0	0	26	4	4	nw.	Ray W. Ward.	
Branscomb.	Mendocino.	2,000	11	59.3	85	10	36	8	40	.29				.00	0	0	1	21	7	2	Do.		
Brawley.	Imperial.	105	2	84.2	109	11	55	2	44	.00				.00	0	0	1	29	0	1	n.	M. D. Witter.	
Brush Creek.	Butte.	2,140	7	67.2	92	10†	40	24†	50	.36				.36	0	1	24	12	4	sw.	Cal. Gas & Elec. Co.		
Burney.	Shasta.	3,300	1	59.7	86	10	34	30	45	.80				.52	0	0	0	23	2	5	nw.	Mrs. M. D. Chambers.	
Calexico.	Imperial.	0	6	84.4	110	11	59	1†	40	.00				.00	0	0	0	28	0	0	sw.	J. E. Peck.	
Caliente **.	Kern.	1,200	35	81.2	+ 2.3	105	11	58	6	T.	—	.12	T.		0	0	0	0	0	0	Do.		
Calistoga **.	Napa.	303	39	64.6	+ 5.0	95	18†	40	44†	.00				.41	.00	0	0	24	4	2	sw.	Southern Pacific Co.	
Campbell.	Santa Clara.	217	14	60.3	—	3.4	85	20†	40	.77				.35	0	0	0	28	0	2	nw.	F. M. Righter.	
Camptonville (near).	Yuba.	3,500	4	70.8	102	18	42	24	46	.49				.34	0	1	28	13	2	sw.	Cal. Gas & Elec. Co.		
Cedarville.	Modoc.	4,675	17	62.1	+ 1.6	90	11	35	24	.37				.25	.17	0	4	13	17	0	sw.	T. H. Johnstone.	
Chico.	Butte.	189	41	74.0	—	3.1	102	18	49	42				.22	.20	0	1	24	5	1	s.	G. H. Stephenson.	
China Flat.	Humboldt.	600	2	67.5	—	100	10	40	4	.50				.05	0	1	20	4	6	sw.	O. I. Westerburg.		
Chino **.	San Bernardino.	714	19	74.8	+ 3.0	100	11	61	4†	.00				.00	0	0	0	30	0	0	e.	Southern Pacific Co.	
Cisco **.	Placer.	5,939	40	55.1	+ 1.1	82	18	38	3	T.	—	.12	T.		0	0	0	0	0	0	Do.		
Clairemont.	Los Angeles.	1,200	19	66.7	0	102	12	44	11	.42				.07	.10	T.	—	10	1	1	w.	F. P. Brackett.	
Cloverdale.	Sonoma.	340	8	65.7	94	18†	41	4	48	.24				.24	0	1	28	0	2	s.	John O. Ogle.		
Colfax.	Placer.	2,421	40	65.8	+ 5.4	91	12	43	23	.34				.39	.23	0	2	22	4	4	n.	Southern Pacific Co.	
Colusa.	Colusa.	60	8	70.4	95	18†	48	21	37	.03				.48	.03	0	1	27	1	2	s.	C. D. McCormish.	
Corning **.	Tehama.	277	25	82.8	+ 5.5	97	18	62	23	.22				.01	.22	0	1	15	13	2	s.	Southern Pacific Co.	
Cuyamaca.	San Diego.	4,677	12	63.0	+ 2.3	84	11	45	1†	.28				.65	.00	0	0	17	13	0	e.	L. L. Macquarie.	
Daunt.	Tulare.	4,000	4	63.8	93	11	40	1†	40	.11				.11	0	1	21	7	2	sw.	D. L. Wilson.		
Davisville.	Yolo.	51	36	67.0	+ 7.3	100	18	38	9	.50	T.	—	.18	T.		0	0	26	3	1	w.	S. H. Beckett.	
Deer Creek.	Nevada.	700	4	58.6	86	11	34	24	38	.76				.54	0	4	26	3	1	w.	Cal. Gas & Elec. Co.		
Del Monte.	Monterey.																				H. R. Warner.		
Delta.	Shasta.	1,138	26																		Southern Pacific Co.		
Denair.	Stanislaus.	136	11	63.1	- 10.0	93	25†	38	8†	47	.00			.11	.00	0	0	28	1	1	nw.	Santa Fe Co.	
Dobbins (near).	Yuba.	1,650	7	71.5	98	11†	50	34	34	.36				.27	0	2	20	10	0	s.	Cal. Gas & Elec. Co.		
Dudleys.	Mariposa.	3,000	2	61.6	90	11	38	22	44	.12				.06	0	0	23	5	1	nw.	W. H. Dudley.		
Dunsmuir **.	Yolo.	65	34	82.1	+ 4.2	100	26	60	22	.00				.20	.00	0	0	25	0	0	sw.	Southern Pacific Co.	
Dunsmuir **.	Siskiyou.	2,285	22	66.2	+ 2.8	96	11	49	24	.22				.31	.00	0	0	21	0	0	n.	R. W. Durham.	
Durham.	Butte.	160	16	72.0	- 1.4	98	18	46	22	.42				.40	.12	0	1	29	1	3	sw.	H. H. Kessler.	
El Cajon.	San Diego.	482	12	65.8	- 1.4	93	4†	43	7	.49				.11	.00	0	0	29	1	0	n.	Cal. Gas & Elec. Co.	
Electra.	Amador.	725	7	73.8	—	106	11†	46	23†	.52				.03	0	0	0	28	3	1	nw.	A. F. Schult.	
Elsinore.	Riverside.	1,234	16	69.2	—	2.3	107	12	40	1†				.04	.00	0	0	28	2	0	nw.	Southern Pacific Co.	
Emigrant Gap.	Placer.	5,230	37	61.6	+ 2.1	85	12†	39	1	.33	1.02			.16	.75	0	2	24	1	5	sw.	A. R. Moon.	
Escondido.	San Diego.	657	17	66.4	- 1.5	95	12	42	1†	.45				.24	.00	0	0	7	0	0	w.	U. S. Weather Bureau.	
Eureka.	Humboldt.	64	25	51.7	- 2.9	66	25	44	18	.15				.95	.16	0	0	4	5	10	n.	Southern Pacific Co.	
Farmington **.	San Joaquin.	111	39	74.2	+ .5	98	18	51	22	.65				.52	.00	0	0	28	1	1	nw.	F. O. Hutton.	
Folsom.	Sacramento.	6,500	16	48.1	—	76	11†	25	5	.47				.61	- 1.25	22	0	3	18	9	3	sw.	E. E. Roening.
Fordyce Dam.	Nevada.	1,650	7	66.2	—	65	17	40	22	.44				.65	—	0	0	26	1	3	s.	A. J. Burgl.	
Fouts Springs.	Fresno.	293	24	75.2	- .6	102	18	51	22	.38	T.	—	.10	T.	—	0							

TABLE I.—Climatological data for June, 1911. District No. 11—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Prevailing wind direction.	Observers.			
				Mean.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmeasured.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.				
<i>California—Contd.</i>																					
Lake Eleanor	Tuolumne	4,700	1	59.6	.....	89	11	35	1	41	.33	.....	.20	0	3	27	2	1	se.	O. J. Todd.	
La Porte	Plumas	5,000	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. W. Hendel.		
Le Grand	Merced	255	11	74.1	—	5	104	13	45	14†	51	.00	.00	0	0	26	0	4	se.	Santa Fe Co.	
Lemon Cove	Tulare	600	16	78.9	+	7	107	18	49	24	42	.00	—.08	0	0	26	0	0	w.	G. W. Sandige.	
Lick Observatory	Santa Clara	4,209	22	62.4	+ 1.9	81	11	34	23	20	.00	—.47	0	0	0	0	0	0	se.	The Director.	
Livermore	Alameda	485	40	64.7	— 2.9	83	18	46	37†	46	.07	—.08	.07	0	0	1	24	5	w.	E. G. Still.	
Lodi	San Joaquin	45	29	68.4	— 7	96	18	44	23	42	.11	—.08	.11	0	0	1	26	3	1	w.	Ezra Fiske.
Lone Pine	Inyo	2,728	6	70.2	.....	97	27	43	1	43	.10	.....	.08	0	0	2	25	5	0	s.	G. F. Marsh.
Long Valley	Lassen	4,400	2	67.1	.....	93	12	34	24	43	.15	.....	.15	0	0	1	12	14	4	sw.	A. G. Evans.
Los Angeles	Los Angeles	293	34	63.8	— 7	87	12	51	1	81	.03	—.07	.03	0	0	1	11	16	3	sw.	U. S. Weather Bureau.
Los Banos	Merced	121	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Southern Pacific Co.		
Los Gatos	Santa Clara	600	21	62.6	— 2.7	91	26	41	22	46	.05	—.02	.05	0	0	1	24	5	1	n.	F. H. McCullagh.
McCloud	Siskiyou	3,410	1	61.3	.....	92	19	34	24†	48	1.03	.....	.69	0	0	5	21	3	1	s.	F. F. Spencer.
Macdoel	do	4,258	45	55.6	.....	89	12	29	4	43	.....	.....	.20	0	0	4	16	9	n.	Butte Valley L. Co.	
Madeline	Lassen	5,270	2	55.0	.....	83	21	30	24	44	1.10	.....	.48	0	0	5	10	12	8	w.	J. H. Williams.
Magalia	Butte	2,321	7	66.8	.....	93	11	40	23	38	.34	.....	.34	0	0	1	27	2	1	se.	Butte Co. R. R. Co.
Mammoth Tank	Imperial	257	33	85.6	— 6.9	111	11	58	1	43	.00	—.00	.00	0	0	0	23	4	3	w.	Southern Pacific Co. Do.
Marysville	Yuba	67	40	73.0	— 3.2	100	18	48	57†	42	T.	—.26	T.	0	0	0	27	0	3	s.	E. A. Palmer.
Mecca	Riverside	—185	5	83.0	.....	110	11	56	8	42	T.	.....	T.	0	0	0	26	4	0	se.	Southern Pacific Co.
Menlo Park **	San Mateo	64	33	64.3	— 2.0	91	26	50	4	T.	—.16	T.	0	0	0	0	0	0	nw.	Santa Fe Co.	
Merced	Merced	173	37	75.4	+ 1	98	12†	56	14	38	.00	—.16	.00	0	0	0	29	1	0	n.	Cal. Gas & Elect. Co.
Mill Creek No. 1	Amador	4	63.6	.....	.....	89	11	41	25	38	.41	.....	.29	0	0	2	26	3	1	n.	J. H. Southwick.
Milton (near)	Calaveras	660	20	71.2	— 1.4	99	18	46	21	36	T.	—.28	T.	0	0	0	23	4	3	nw.	Southern Pacific Co.
Modesto **	Stanislaus	90	39	79.7	+ 3.1	95	18†	63	5	T.	—.10	T.	0	0	0	0	0	0	sw.	Do.	
Mojave	Kern	2,751	34	77.8	+ 3	102	11	62	1	32	.00	—.05	.00	0	0	0	30	0	0	w.	C. E. Prindle.
Mokelumne Hill	Calaveras	1,550	18	68.8	.....	90	14	43	21	34	T.	—.44	T.	0	0	0	23	6	1	sw.	Herbert Lathrop.
Mono Ranch	Ventura	3,210	5	61.6	.....	94	11	38	24	48	.40	.....	.40	0	0	1	27	3	0	w.	I. E. Deboy.
Montague	Siskiyou	2,450	23	63.6	— 5.9	94	10	35	3	50	.33	—.41	.17	0	0	3	15	12	3	n.	Southern Pacific Co.
Monterey **	Monterey	15	46	59.2	— 1.6	70	3†	46	13	42	.00	—.12	.00	0	0	0	27	3	0	w.	John C. Knecht.
Mount Tamalpais	Kern	4,500	12	70.8	+ 2.0	98	13	46	1†	42	.10	—.06	.10	0	0	1	24	1	1	nw.	U. S. Weather Bureau.
Napa City	Marin	2,375	20	60.6	— 3.5	88	18	39	21	24	.01	—.11	.01	0	0	1	21	8	1	sw.	Alex. Hull.
Napa (S. H.)	Napa	20	34	60.2	— 4.4	90	26	40	22	35	.75	0	0	0	0	1	30	0	0	sw.	W. H. Martin.
Needles	San Bernardino	477	19	87.9	+ 1	108	11	62	2	34	.10	+ .08	.10	0	0	1	29	0	1	nw.	Santa Fe Co.
Nellie	San Diego	5,350	2	61.5	.....	92	7	38	15†	46	T.	—.06	T.	0	0	0	29	0	1	s.	T. O. Bradley.
Nevada City	Nevada	2,580	19	64.5	+ 1.6	99	10	36	22	55	.27	—.35	.25	0	0	2	26	3	1	sw.	S. W. Marsh.
Newcastle	Placer	970	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	G. D. Kellogg.		
Newhall **	Los Angeles	1,200	34	68.2	— 2.5	102	11†	50	21†	49	.00	—.08	.00	0	0	0	28	0	2	se.	Southern Pacific Co.
Newman	Stanislaus	91	22	75.1	— 3.8	98	11†	47	9	41	T.	—.06	T.	0	0	0	29	0	1	n.	E. S. Wangenheim.
Nimshew	Butte	2,500	7	64.1	.....	90	3†	34	5	42	.55	.....	.42	0	0	1	22	7	1	w.	Cal. Gas & Elect. Co.
North Bloomfield	Nevada	3,214	14	64.1	— 1.5	91	11†	41	8†	38	.42	—.30	T.	0	0	0	26	4	0	w.	J. R. McIntosh.
North Fork	Madera	3,000	7	66.2	.....	98	12	41	24	44	T.	—.34	T.	0	0	0	28	0	0	nw.	C. H. Shinn.
Oakdale **	Stanislaus	156	17	70.2	— 3.7	96	27	52	4†	47	.00	—.34	.00	0	0	0	27	0	0	nw.	Southern Pacific Co.
Oak Grove	San Diego	1	62.8	.....	100	11†	36	8	61	.00	—.00	.00	0	0	0	0	0	0	sw.	B. L. Johnson.	
Oceanside	Alameda	36	35	60.2	— 1.3	81	31	49	5	28	.11	—.22	.11	0	0	0	16	12	2	w.	Cabot Observatory.
Ojai Valley	San Diego	900	5	74.1	.....	86	6	51	1	32	T.	—.22	T.	0	0	0	11	9	10	w.	H. D. Brodie.
Orland	Ventura	254	29	75.1	— 3.6	103	18	50	20†	40	.17	—.25	.12	0	0	0	22	2	2	sw.	W. H. Duncan.
Orleans	Glenn	254	29	75.1	— 3.6	103	18	50	20†	40	.17	—.25	.12	0	0	0	22	2	2	sw.	U. S. Reclamation Service.
Oroville (near)	Humboldt	520	8	71.2	.....	105	10	44	4†	51	.03	—.03	.03	0	0	1	25	0	5	s.	F. T. Hale.
Palermo	Butte	250	27	72.9	— 2.3	102	18	47	21†	38	.20	—.13	.20	0	0	1	24	4	0	n.	E. D. Fairchild.
Palm Springs **	Riverside	584	23	83.7	— 6.9	113	11	66	15	38	.00	—.00	.00	0	0	0	25	0	0	w.	Miss Hettie Boalt.
Pasadena	Los Angeles	827	21	64.5	— 6.1	98	12	42	23	44	.06	+ .05	.03	0	0	0	25	0	0	sw.	Southern Pacific Co.
Paso Robles	San Luis Obispo	800	24	63.8	— 4.6	102	13	37	5	51	.00	—.05	.00	0	0	0	22	7	1	nw.	E. D. Sorver.
Peachland	Sonoma	190	15	60.4	— 4.6	97	26	32	47	.01	—.40	.01	0	0	1	20	9	1	sw.	E. H. Parnell.	
Penstock Camp	Tuolumne	3,750	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Tuolumne Water Power Co.		
Placerville	El Dorado	1,875	22	67.7	+ .9	92	1†	40	21†	49	.09	—.59	.09	0	0	1	28	3	0	sw.	A. Baring-Gould.
Point Lobos	San Francisco	250	18	53.8	— 1.5	74	30	46	22	22	.03	—.11	.03	0	0	1	7	10	13	nw.	John Hyslop.
Point Reyes	Marin	400	19	50.6	— 2.2	58	25	46	2	11	.02	—.28	.02	0	0	1	5	8	17	nw.	U. S. Weather Bureau.
Porterville	Tulare	464	22	75.5	— 7.0	103	12†	47	24	47	.01	—.17	.01	0	0	1	27	1	2	sw.	Leslie McAuliff.
Quincy	Plumas	3,400	16	60.8	— 1.6	89	18	33	22	50	.09	—.30	.09	0	0	1	26	1	3	sw.	U. S. Forest Service.
Red Bluff	Tehama	307	34	74.5	+ 1.2	100	18	41	21	36	.27	—.22	.27	0	0	2	19	0	0	sw.	U. S. Weather Bureau.
Redding	Shasta	552	35	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. F. Bassett.		
Redlands	San Bernardino	1,352	18	68.5	— 5.3	105	12	45	1†	45	T.	—.10	T.	0	0	0	22	8	0	w.	P. W. Moore.
Reedley	Fresno	347	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Santa Fe Co.		
Rialto (near)	San Bernardino	2,250	5	67.7	— 1.5	74	30	46	24	37	.01	—.05	.01	0	0	1	25	5	0	sw.	

TABLE 1.—*Climatological data for June, 1911. District No. 11—Continued.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmeted.	Number of rainy days, 0.01 inch or more.			
<i>California—Contd.</i>																		
Sisson.	Siskiyou.	3,555	22	57.4	- 6.0	84	14	33	24	.31	— .42	.09	T.	4	9	5	16	n.
Soledad **.	Monterey.	188	37	71.2	+ 5.7	95	30	50	1	.00	— .06	.00	T.	0	0	0	0	s.
Southeast Farallon.	San Francisco.	30	8	51.2	—	59	25	47	5	.8	—	.00	T.	8	9	9	13	nw.
Sonora.	Tuolumne.	1,826	23	70.0	—	96	11	48	17	.42	.07	.25	.07	0	1	29	0	n.w.
Squirrel Inn.	San Bernardino.	5,280	1	61.1	—	84	11†	41	21†	.29	.00	.00	.00	0	0	29	1	sw.
Stirling City.	Butte.	3,525	7	67.4	—	92	19†	40	23†	.40	.35	.35	.35	1	1	20	10	0
Stockton (S. H.).	San Joaquin.	23	40	67.8	- 2.1	94	18	46	22	.36	T.	— .09	T.	0	0	28	1	nw.
Storey.	Madera.	296	11	72.0	- 2.3	100	18†	44	24	.46	.00	— .02	.00	0	0	30	0	nw.
Suisun **.	Solano.	20	31	63.5	—	78	20†	54	18	—	.00	.00	.00	0	0	22	7	—
Summerdale.	Mariposa.	5,270	15	60.0	- 1.0	89	12	40	17	.33	.00	— .39	.00	0	1	25	4	w.
Summit.	Placer.	7,017	38	56.5	+ 3.3	76	13†	35	30	.28	.04	— .54	.04	0	0	19	3	sw.
Susanville.	Lassen.	4,175	23	61.0	- 2.9	88	11	35	24	.41	.27	— .31	.14	0	0	3	3	se.
Tamarack.	Alpine.	8,000	5	41.6	—	71	15	18	23†	.50	1.10	.65	.65	2	2	24	3	sw.
Tehachapi **.	Kern.	3,964	34	73.0	+ 3.6	94	11	55	2	—	.00	— .10	.00	0	0	28	0	Do.
Tehama **.	Tehama.	220	40	75.4	— 2.2	100	11†	60	14†	—	T.	— .30	T.	0	0	28	0	S. E. Bailey.
Tejon Rancho.	Kern.	1,500	9	67.8*	—	94	13	47	15	.40	.00	—	.00	0	0	28	0	E. D. Barton.
Three Rivers.	Tulare.	870	1	72.2	—	101	11	44	24	.43	.03	—	.03	0	1	25	4	Southern Pacific Co.
Towle.	Placer.	3,704	25	—	—	—	—	—	—	—	—	—	—	0	0	25	1	Do.
Tracy **.	San Joaquin.	64	31	77.0	+ 1.1	94	18†	62	1	.02	— .16	.02	0	1	21	5	4	nw.
Ukiah.	Mendocino.	620	18	66.4	- 1.3	95	11	41	4	.46	.48	+ .15	.45	2	2	23	5	Dr. Geo. McCowen.
Upland.	San Bernardino.	1,750	14	67.1	+ .3	98	12	43	10	.41	.00	— .17	.00	0	0	30	0	A. P. Harwood.
Upper Lake.	Lake.	1,350	20	68.6	+ 2.4	94	11†	43	23	.40	.28	+ .01	.23	2	2	24	4	C. M. Hammond.
Vacaville.	Solano.	175	23	68.4	— 3.5	100	18	46	24†	.47	T.	— .17	T.	0	0	23	6	G. O. Coburn.
Valley Springs **.	Calaveras.	673	22	72.0	— 2.5	100	20	56	21†	—	.00	— .30	.06	0	0	23	0	Southern Pacific Co.
Visalia.	Tulare.	334	23	67.4	— 6.6	101	12	39	57	.64	.00	— .16	.06	0	0	25	5	Santa Fe Co.
Warner Springs.	San Diego.	3,165	3	64.4	—	95	11	40	87	.40	.02	—	.02	0	1	29	1	Mrs. F. S. Sandford.
Wasco.	Kern.	330	11	71.2	— 6.1	103	18†	37	2	.55	.00	— .00	.00	0	0	30	0	Santa Fe Co.
Watsonville.	Santa Cruz.	23	15	57.8	- 4.6	82	7	38	22	.39	.09	— .08	.09	0	1	5	6	Spreckels Sugar Co.
Welchpec.	Humboldt.	1,700	1	60.0	—	94	10	38	24	.40	— .04	.02	0	2	23	4	M. E. Lathrop.	
Westley **.	Stanislaus.	90	22	75.5	— 2.4	98	26	60	6†	—	.13	+ .04	.13	0	1	28	0	Southern Pacific Co.
Wheatland.	Yuba.	84	24	70.4	— 1.5	98	18	48	9†	.38	.01	— .18	.01	0	1	19	7	Wm. Lumbard.
Willows.	Glenn.	136	32	—	—	—	—	—	—	—	—	—	—	0	0	7	4	L. G. Stiles.
Yosemite.	Marioposa.	3,945	7	63.4	—	95	26	29	17	.54	.00	—	.00	0	0	30	0	J. P. Kelley.

\*, b, \*, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

\*\* Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.

† Also on other dates.

T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for June, 1911. District No. 11, California.*

TABLE 2.—*Daily precipitation for June, 1911. District No. 11—Continued.*

TABLE 2.—*Daily precipitation for June, 1911. District No. 11—Continued.*

TABLE 2.—*Daily precipitation for June, 1911. District No. 11—Continued.*

Stations.	Watershed.	Day of month.																													Total.		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
<i>California—Contd.</i>																																	
Tulare.....	San Joaquin.....							T.																									T.
Tustin (near).....	Coast.....							T.																									T.
Ukiah.....	do.....	.03							.45																								0.48
Upland.....	do.....																																0.00
Upper Lake.....	Sacramento.....			.05				T.	.23																							0.28	
Upper Mattole.....	Coast.....							T.																									T.
Vacaville.....	Sacramento.....							T.																									T.
Valley Springs.....	San Joaquin.....																																0.00
Visalia.....	do.....																																0.00
Warner Springs.....	Coast.....							.02																									0.02
Wasco.....	San Joaquin.....																																0.00
Watsonville.....	Coast.....								.09																								0.09
Weitchpec.....	Klamath.....								.02	.02																						T.	
West Branch.....	Sacramento.....	.06							.13	.29																						0.48	
Westley.....	San Joaquin.....										.13																					0.13	
West Point.....	do.....								.15																							0.15	
West Saticoy.....	Coast.....							T.																								T.	
Wheatland.....	Sacramento.....								.01																							0.01	
Willows.....	do.....																																0.00
Yosemite.....	San Joaquin.....																																0.00

\* Precipitation included in that of the next measurement.  
† Separate dates of falls not recorded.

|| Precipitation for the 24 hours ending on the morning when it is measured.  
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—Maximum and minimum temperatures for June, 1911. District No. 11, California.

Date.	Lakeview, Oreg.		California.																													
			Alturas.		Barstow.		Brawley.		Colusa.		Eureka.		Fresno.		Independ- ence.		Los Angeles.		Mount Tamalpais.		Nevada City.		Porter- ville.		Red Bluff.							
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.						
1.	66	34	87	50	70	44	93	58	79	50	52	48	83	56	74	44	68	51	65	44	77	44	88	49	83	59						
2.	76	30	93	55	78	42	95	55	84	55	54	48	89	58	80	48	68	54	71	55	80	44	90	52	88	60						
3.	74	35	97	58	70	40	97	57	84	57	53	47	93	61	84	50	67	54	69	58	81	44	92	58	86	64						
4.	76	44	95	57	72	37	100	58	82	51	54	46	89	60	84	51	72	53	68	53	84	45	95	56	87	57						
5.	82	32	98	60	77	42	102	70	84	52	54	46	94	58	87	51	79	53	70	55	85	43	88	55	88	57						
6.	76	35	85	60	78	45	99	73	76	59	51	47	88	62	78	60	86	56	64	43	71	48	89	56	76	60						
7.	62	45	91	58	76	45	101	76	78	57	54	48	94	53	80	52	74	52	54	42	95	52	78	58	86	64						
8.	67	45	93	57	68	36	100	71	81	52	54	48	86	54	82	47	73	51	63	53	80	40	96	53	82	58						
9.	79	36	96	57	74	44	99	64	86	52	53	47	89	54	85	52	71	52	73	55	84	39	95	54	93	58						
10.	88	42	102	59	85	46	104	59	89	52	58	47	99	61	92	56	72	59	64	99	44	98	52	94	62	86	60					
11.	92	46	107	62	84	46	109	65	93	58	55	47	101	67	94	56	74	52	79	65	95	51	100	53	97	66						
12.	91	45	106	64	82	44	105	74	90	61	52	48	101	66	96	57	87	56	74	63	95	50	103	66	96	66	86	63				
13.	91	44	104	67	83	44	100	75	87	55	57	48	95	53	83	60	70	59	91	47	98	63	103	66	95	63	86	63				
14.	87	48	96	60	73	45	100	66	81	51	53	48	90	57	82	53	71	56	61	48	87	46	97	60	87	62	86	62				
15.	83	47	99	60	80	41	98	60	84	50	54	48	88	55	86	56	70	55	70	51	87	44	96	58	95	59	86	60				
16.	85	41	101	62	81	43	98	59	89	58	54	47	95	62	89	56	69	55	71	58	89	48	94	57	94	66	86	66				
17.	85	45	102	64	80	42	97	62	91	60	55	48	98	64	92	60	67	78	60	88	50	100	66	97	68	86	68	86	68			
18.	87	40	104	62	80	42	103	59	95	63	51	44	102	67	92	60	72	55	83	65	91	50	103	66	100	67	86	67	86	67		
19.	89	43	103	65	78	41	101	72	90	62	55	44	101	69	94	55	68	57	72	61	91	50	102	68	93	69	86	69	86	69		
20.	86	42	100	64	74	40	99	68	83	53	56	49	94	62	88	57	67	48	84	49	98	61	87	60	98	60	86	60	86	60		
Mns.	79.5	40.5	96.5	60.8	76.6	42.0	104.0	64.4	85.0	55.7	55.4	48.0	91.3	59.1	85.8	54.3	72.8	54.9	68.6	52.7	84.1	44.9	94.7	66.3	87.7	61.3	86.4	61.3	86.4	61.3	86.4	61.3

## California.

Date.	Redlands.		Sacramento.		San Diego.		San Francisco.		San Jose.		San Luis Obispo.		Santa Barbara.		Santa Rosa.		Sisson.		Stockton.		Summit.		Susanville.		Yosemite.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1.	76	45	75	53	65	55	59	48	67	53	65	45	65	47	67	48	78	42	77	52	54	42	74	40	76	29
2.	79	45	83	50	66	57	48	72	52	68	49	66	55	72	47	77	41	84	51	62	48	75	41	78	29	
3.	84	48	76	53	66	57	57	48	75	49	67	49	63	54	66	47	78	42	79	53	58	44	76	43	78	29
4.	86	51	81	49	65	57	57	49	72	47	69	49	68	55	71	42	74	37	82	49	64	50	76	43	81	32
5.	90	49	84	52	77	56	58	48	76	46	68	48	70	52	74	40	75	39	84	52	64	46	79	43	80	36
6.	86	58	74	55	91	59	55	50	68	52	74	52	74	56	66	46	75	40	74	56	58	46	70	44	83	36
7.	84	52	71	52	66	58	60	50	68	50	62	52	63	48	65	51	74	35	68	52	62	44	67	40	83	36
8.	84	48	76	51	66	53	55	48	68	49	62	50	70	45	68	48	68	37	78	50	64	42	72	39	83	36
9.	85	45	83	49	66	54	58	48	74	50	65	50	68	50	76	46	74	38	80	47	66	40	75	40	84	37
10.	85	49	89	55	65	56	56	48	77	50	69	49	72	47	79	47	83	45	83	54	62	46	82	43	90	44
11.	97	52	93	59	66	57	69	47	84	54	80	49	75	53	83	43	81	49	89	56	74	54	88	47	92	45
12.	105	61	81	55	69	56	57	49	68	51	74	49	80	54	74	48	82	50	93	59	72	56	80	50	94	46
13.	88	58	78	53	62	58	53	48	70	51	64	50	68	50	77	43	83	57	80	57	76	54	86	45	94	47
14.	78	57	67	52	62	57	53	49	70	52	61	50	65	55	68	48	84	43	76	50	72	50	86	47	85	47
15.	77	55	80	51	64	57	61	48	75	52	65	49	62	57	72	44	76	48	84	49	72	46	86	47	88	46
16.	81	53	85	54	67	58	61	50	77	50	65	49	64	53	79	43	75	47	86	53	74	52	85	49	88	46
17.	83	54	89	55	65	60	64	50	80	50	69	51	64	53	87	44	79	49	90	56	72	48	85	49	90	46
18.	87	51	93	62	64	59	71	52	87	50	69	50	65	53	91	47	80	48	94	58	74	52	85	47	94	49
19.	81	55	77	55	64	59	56	50	78	51	68	53	64	55	74	44	80	41	85	62	76	48	86	48	90	50
20.	75	55	73	52	66	58	54	49	72	51	62	54	62	54	68	42	75	49	78	62	74	50	84	46	89	50
21.	74	54	69	49	66	59	56	48	64	46	63	51	68													